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FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (FFA/CO)
NEW SITE IDENTIFICATION (NSI)

Part A – NEW SITE IDENTIFICATION INFORMATION (To be completed by the Task Lead for New Site)	
1. **Site Title:** **Shallow Injection Well 5-TRA IDWR#12 TRA FD5 Dry Well Connected to Valve Pit in TRA-669** (Use known common names, location descriptors and or processes near or associated with the suspected inactive waste site.)	**Site Code:** **TRA-64** **NSI Evaluation Initiation Date:** July 18, 2003
2. **Task Lead For New Site:** Wendell Jolley	Phone: 526-5990
3. **NSI Coordinator:** Nielsen Burch	Phone: 526-5676
4. **Initiator or Initial Observer:** Paul V. Hehn	Phone: 526-8886

5. **Description of Suspected New Site and Location:** (A location map and/or diagram identifying the site against controlled survey points or global positioning system descriptors may be included. Document all existing information including historical, process, screening data, analytical data, radiological surveys etc. Attach supporting documentation)

This new site identification (NSI) form is for a dry well connected to a valve pit at the Test Reactor Area (TRA). This well was identified in a correspondence dated 1/3/03 to Mike Piechowski at the Idaho Department of Water Resources (IDWR) from Ron Guymon, Director, BBWI Environmental Affairs. This correspondence also indicates that new site identification forms will be submitted, and provides information concerning the function/description of the wells. For the purposes of this NSI form, the shallow injection well is identified at the top by the Site Title which includes: shallow injection well, the record number and facility identifier, the IDWR Record Number, the well name, and location.

The valve pit is located in the southeast corner of the vestibule of building TRA-669, and has a drain that connects to a dry well southeast of the building (see figure 1). TRA-669 is an aluminum building and was originally designed and built in 1968 to conduct tests with a BETA RAY SPECTROMETER. In the early 1990s it was converted to the Neutron Investigation Facility for Transuranic Elements (NIFTE) and has been known recently as the "Cold Storage" building following the end of experimentation. This building had its own boiler system in the basement and was not connected to the TRA/MTR steam generation system. The steam condensate from the boiler system was discharged to the valve pit which drains to the dry well that is approximately 10 feet 5 inches below land surface. The utilities have been disconnected and the sump has been filled with vermiculite. This shallow injection well is considered inactive.

During operation of TRA-669 hazardous chemicals and radionuclides were used in the building. Chemicals that were used in TRA-669 were: asbestos, lithium carbonate, lithium fluoride, cadmium sheets, lead bricks, xylene, cadmium and boral materials, sulfur hexafluoride, mercury, beryllium, and heavy water. Small quantities of chemically hazardous cleaners may have been used on the components. Nearly a dozen sealed radioactive sources were used to simulate radioactive waste. We do not have any information indicating spills or releases of these chemicals or sources. TRA-669 has an apparently significant radon rafiation exposure problem.

Other similar shallow injection wells at TRA intended to receive steam condensate are considered nonhazardous and meet the Class V definition. Therefore this shallow injection well associated with this system would also meet the Class V definition (EPA Proposes to Continue with its Existing Approach for Managing Class V Injection Wells, EPA 816-F-01-009, April 2001).

Chemicals that could potentially be present in the condensate system and the wells include sodium bisulfite, and disodium and trisodium phosphate. At the time the system was constructed, no chemical conditioning agents were used. Beginning in 1986, sulfite and phosphate chemical addition tanks were used to provide chemical conditioning for the boiler feedwater in the TRA/MTR system. Therefore it would be logical to assume that the TRA-669 boiler system would have used the same boiler conditioning chemicals if any were used at all. In the TRA/MTR system , sulfite salts, primarily sodium bisulfite, were added in batches and diluted with demineralized water. The sulfite solution was pumped to the deaerator. Sulfite was used as a boiler feedwater conditioner because of its ability to scavenge oxygen. (INEEL 2001). Phosphate is added to the boiler steam drums to act as a corrosion inhibitor. The phosphate salts, primarily disodium and trisodium phosphate, were added in batches and mixed with demineralized water. The chemical solution was then transferred directly to the boiler steam drums.

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These three chemicals are not included as hazardous constituents in 40 CFR Part 261 Appendix VIII and therefore are considered nonhazardous. All three when in water will disassociate into common ions. Therefore these components of the TRA/MTR steam generation system have only contained demineralized water, steam, and sulfite and phosphate salts (INEEL 2001). If sulfite is discharged in effluents or from domestic wastewaters, it readily oxidizes to form sulfate. Phosphate and sulfate salts are both nonhazardous and nontoxic. Both phosphorous and sulfur are essential nutrients for the support of life (NAS 1980). Therefore it is unlikely that this shallow injection well poses an unacceptable risk to human health or the environment.

6. **Is the site a Solid Waste Management Unit (SWMU) as defined in OSWER Directive 9502.00-6?** ☒ **Yes** ☐ **No**

7. **Recommendation**

☐ Recommend not including as a new FFA/CO site. This site DOES NOT warrant further investigation, does not meet the criteria for acceptance, and should not be included under FFA/CO Action Plan.

☒ Recommend including as new FFA/CO site. This site DOES meet the criteria for acceptance, may warrant further investigation, and should be included under FFA/CO Action Plan.

Recommended Waste Area Group (WAG) and Operable Unit to which site should be assigned:

WAG: 10 Operable Unit: 10-08

Recommended action for this site:

☒ No Action ☐ No Further Action ☐ Remedial Action under Existing ROD ☐ Track 2 ☐ RI/FS

8. **Responsible Manager Signature:**

Name: Lane Butler Signature: J Butler Date: 4/19/06

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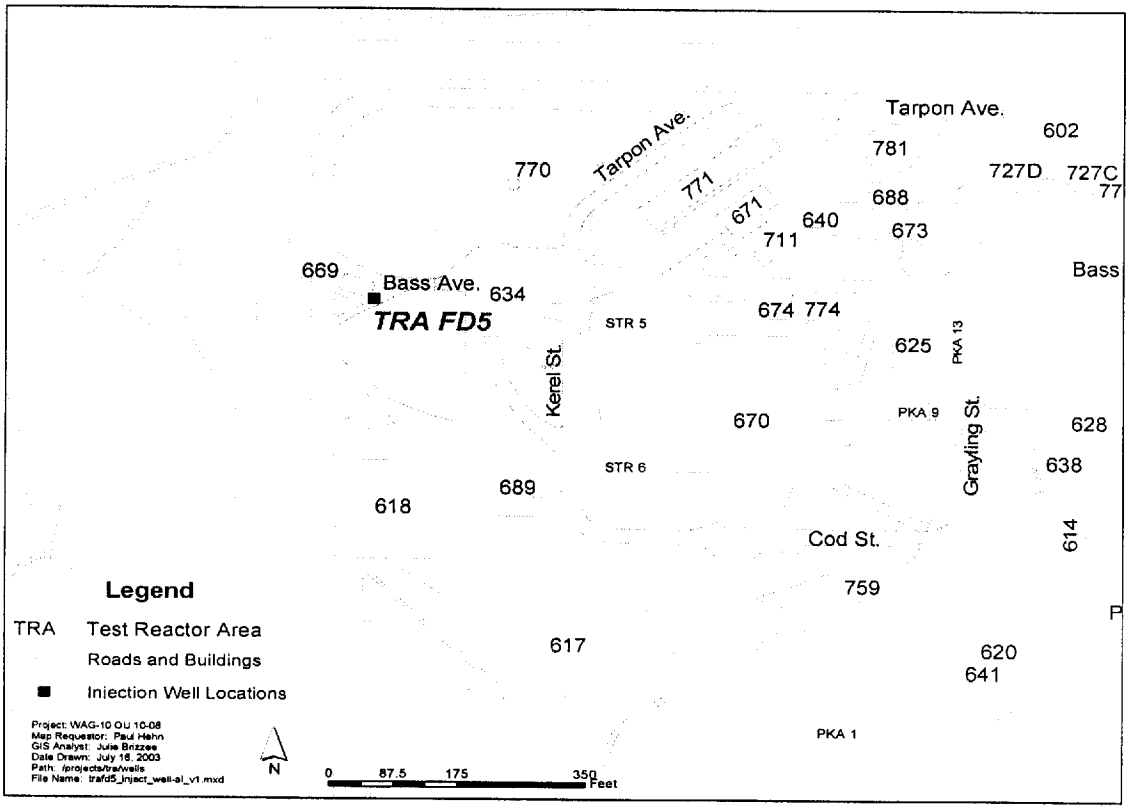

Figure 1. Location of TRA FD 5 at the Test Reactor Area.

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PART B – FFA/CO RESPONSIBLE PROGRAM MANAGERS (RPM'S) CONCURRENCE

Site Title:	Site Code:
Shallow Injection Well 5-TRA IDWR#12 TRA FD5 Dry Well Connected to Valve Pit in TRA-669	TRA-64

DOE-ID FFA/CO RPM Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Yolanda R. Jeman Date: 5-16-06.

Explanation:

It is very unlikely that any hazardous constituents were released to the environment from the steam generation system via this dry well that would pose an unacceptable risk to human health or the environment. Therefore, I concur that it should be added to OU 10-08 as a "No Action" site.

EPA FFA/CO RPM Concurrence: ☐ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation:

State of Idaho FFA/CO RPM Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Daryl F. Koch Date: July 6, 2006

Explanation:

This dry well received steam condensate from the boiler system in Building 669. Although hazardous constituents and radionuclides were present in TRA-669, there are no records of spills or releases. Therefore, it is unlikely that the shallow injection well poses an unacceptable risk to human health and the environment, and should be considered a "No Action" site under OU 10-08.

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DOE-ID FFA/CO RPM Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Mark L. Jensen Date: 5-16-06.

Explanation:

It is very unlikely that any hazardous constituents were released to the environment from the steam generation system via this dry well that would pose an unacceptable risk to human health or the environment. Therefore, I concur that it should be added to OU 10-08 as a "No Action" site.

EPA FFA/CO RPM Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: R Matthew Wells Date: 6/13/06

Explanation:

Based on the information provided in the new site identificati it appears unlikely that any hazardous constituents were released to the environment that would pose an unacceptable risk. I concur that this site should be added to OU 10-08 as a "No Action" site.

State of Idaho FFA/CO RPM Concurrence: ☐ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: _____ Date: _____

Explanation: